



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| (51) International Patent Classification ⁶ : C12N 15/12, C07K 14/705, 16/28, A61K 38/17, C12Q 1/68, G01N 33/50, A61K 31/70 | | A3 | (11) International Publication Number: WO 99/46377 (43) International Publication Date: 16 September 1999 (16.09.99) |
| (21) International Application Number: PCT/EP99/01550 (22) International Filing Date: 10 March 1999 (10.03.99) (30) Priority Data: 98400565.2 11 March 1998 (11.03.98) EP (71) Applicant (for all designated States except US): SANOFI-SYNTHELABO [FR/FR]; 174, avenue de France, F-75013 Paris (FR). (72) Inventors; and (75) Inventors/Applicants (for US only): PARTISETI, Michel [FR/FR]; 72, rue Velpeau, F-92160 Antony (FR). RENARD, Stéphane [FR/FR]; 290, avenue Napoléon Bonaparte, F-92500 Rueil Malmaison (FR). (74) Agent: BUREAU D.A. CASALONGA-JOSSE; Morassistrasse 8, D-80469 Munich (DE). | | (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 04 November 1999 (04.11.1999) | |

(54) Title: A HUMAN VANILLOID RECEPTOR-LIKE CATION CHANNEL

(57) Abstract

hVRCC polypeptides and polynucleotides and methods for producing such polypeptides by recombinant techniques are disclosed. Also disclosed are methods for utilizing hVRCC polypeptides and polynucleotides in the design of protocols for the treatment of acute and chronic inflammation, acute and chronic pain, brain diseases, abnormal proliferation and cancer, ulcer, autoimmune diseases, control of viscera innervated by the dorsal root ganglia neurons (for instance control of bladder function or dysfunction), to mimic or antagonize effect of endogenous neurotransmitters and hormones, to inhibit graft rejection by promoting immunosuppression, among others and diagnostic assays for such conditions.

3.2 Kb →



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 99/01550

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C12N15/12 C07K14/705 C07K16/28 A61K38/17 C12Q1/68
G01N33/50 A61K31/70

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C12N C07K A61K C12Q G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | CATERINA, MICHAEL J. ET AL: "The capsaicin receptor: a heat-activated ion channel in the pain pathway" NATURE (LONDON), 1997, 389, 816-824, XP002075020 cited in the application | 18,20 |
| Y | page 822 - page 823; figures 2,5 | 1-6,11, 12 |
| X | BIRO T ET AL: "Recent advances in understanding of vanilloid receptors: a therapeutic target for treatment of pain and inflammation in skin." J INVESTIG DERMATOL SYMP PROC, AUG 1997, 2 (1) P56-60, XP002075021 UNITED STATES | 18,20 |
| Y | abstract; figure 1; tables I,II | 1-6,11, 12 |
| | --- -/-- | |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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Date of the actual completion of the international search

7 September 1999

Date of mailing of the international search report

14/09/1999

Name and mailing address of the ISA

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Espen, J

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 99/01550

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | SZALLASI A ET AL: "A novel agonist, phorbol 12-phenylacetate 13-acetate 20-homovanillate, abolishes positive cooperativity of binding by the vanilloid receptor." EUR J PHARMACOL, MAR 28 1996, 299 (1-3) P221-8, XP002059195 NETHERLANDS figure 6 | 18,20 |
| P,X | WO 99 09140 A (BRAKE A ;JULIUS D J (US); CATERINA M (US) UNIV CALIFORNIA (US)) 25 February 1999 (1999-02-25) SEQ IDs 5-7,20-23 page 9 - page 10 examples 14,15 | 1-3,6,11 |
| T | CATERINA ET AL: "A capsaicin-receptor homologue with a high threshold for noxious heat" NATURE, vol. 398, no. 398, 1 April 1999 (1999-04-01), pages 436-441 441, XP002105951 ISSN: 0028-0836 | |

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 99/ 01550

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Remark: Although claim 16
is directed to a method of treatment of the human/animal
body, the search has been carried out and based on the alleged
effects of the compound/composition.
2. ☒ Claims Nos.: 18,20 in part. 14, 15
because they relate to parts of the International Application that do not comply with the prescribed requirements to such
an extent that no meaningful International Search can be carried out, specifically:
See FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment
of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report
covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is
restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 18,20, in part:14,15

Claims 14,15,18,20 relate to agonists or antagonists without giving a true technical characterization. In consequence, the scope of said claims is ambiguous and vague, and their subject-matter is not sufficiently disclosed and supported (Art. 5 and 6 PCT).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 99/01550

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| WO 9909140 A | 25-02-1999 | AU 9115698 A | 08-03-1999 |
| | | WO 9937675 A | 29-07-1999 |

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